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<b>In the Matter of</b>	)	
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<b>Protecting and Promoting the Open Internet</b>	)	<b>GN Docket No. 14-28</b>
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<b>To: The Secretary</b>		

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Before the  
**Federal Communications Commission**  
Washington, DC 20554

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GN Docket No. 14-28

To: The Secretary

**COMMENTS OF SMITHWICK & BELENDIUK, P.C.**

They stand, ..., in the very "gateway of commerce," and take toll from all who pass. Their business most certainly "tends to a common charge, and is become a thing of public interest and use."

*Munn v. Illinois* 94 U.S. 113, 132 (1876)

**Introduction And Summary**

In the 138 years since the Supreme Court decided *Munn v. Illinois* technology has greatly changed, but the fundamental concept, that it is against the public interest for a small group of individuals or companies to control bottlenecks to the free flow of commerce, remains firmly rooted in American jurisprudence. The Internet is a public resource that no one owns. The genius of the Internet is its democratic model that invites the creativity and innovation of all. It is a worldwide marketplace, where each day billions of dollars of goods and services are bought and sold. It is also a marketplace of ideas, as diverse as human thought, where information, be it social, educational or political is freely exchanged. As the FCC recognizes, the Internet has had a "wide-ranging impact on everything from: the way people get, share and create news... the way they learn; the nature of their political activity; their interactions with government; the style

and scope of their communication with friends and family; and the way they organize communities.”<sup>1</sup> A handful of gatekeepers, the Internet Service Providers (“ISPs”), control access to broadband customers, and are seeking to exploit the market power they possess, as has been the historical behavior of dominant entities in the telecommunications industry in this country, and is the traditional basis for common carrier regulation in the public interest.

Common carriers transmit to the recipient whatever the customer designates; nothing more. The content is none of the common carriers’ business. True, if a rail common carrier is transporting livestock or perishable goods, special accommodations must be made. In the Internet Age all that broadband providers are carrying are “bits” of data; nothing more. Yet the large broadband providers are not satisfied to charge a fair price for transmission of bits. They see the content market as the greater revenue source and are trying to leverage their bottleneck control over broadband Internet access to gain an unfair advantage for their own content offerings, or at least extract a supracompetitive share of the content providers’ own revenue.

In the Open Internet NPRM the FCC is proposing yet another approach to checking market abuses by the large ISPs, which again fails to take the bull by the horns, and would at best be ineffectual. While the NPRM gives a nod to Title II regulation, the thrust of the proposal is on hybrid rules that would either be overturned once more in court or take years of proceedings to clarify and enforce. However, the real problem to be fixed is not “fast lanes” or “slow lanes”; these are important, yet symptomatic. The real problem to be fixed is that the bottleneck control of the large ISPs’ over broadband Internet access persists and is actually strengthening, more than ten years after the FCC freed them of the obligation to provide unbundled broadband transmission as common carriers. In this time, industry consolidation has

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<sup>1</sup> *In the Matter of Protecting and Promoting the Open Internet, Notice of Proposed Rulemaking, (“Open Internet NPRM or NPRM”)* GN Docket No. 14-28, 2014 FCC LEXIS 1689, ¶35 released May 15, 2014.



proceeded at a torrid pace unimpeded by government; the competition the FCC envisioned in the form of new broadband providers has not materialized; thousands of independent ISPs that once had access to the facilities and services of the incumbent telecommunications companies have largely disappeared; and the evidence of market power by the large ISPs is overwhelming.

The case for common carrier regulation is as strong as ever. Left to their own devices dominant broadband providers are poised to behave as they always have: excluding competition, maximizing profits at the expense of social welfare, and stifling innovation where it serves the bottom line. The post-divestiture Bell companies would have applied telephone switched access charges to information access via dial up, severely inhibiting the growth of the emerging Internet, had it not been for the creation of the Enhanced Service Provider Exemption from access charges by the FCC. Contrary to the Title II detractors, the principles of 19<sup>th</sup> and 20<sup>th</sup> century common carrier regulation still are valid: in the presence of bottleneck control or market power, regulation is necessary in the public interest.

The so-called “edge providers” are no more than heavy usage customers of the broadband providers. They are “end users” like residential and small business customers. The FCC’s categorization of Netflix and large content disseminators as edge providers is a distinction without a difference; moreover, it is artificial and misleading. Common carrier regulation can be reinstated in a fairly straightforward manner by requiring the large broadband providers, notably Comcast, Verizon and AT&T, to offer unbundled Internet access wherever they are today providing integrated ISP services. Customers and independent ISPs could obtain Internet access for the same charges and on the same terms and conditions as when the customer used the broadband provider as an ISP. The argument that this form of regulation may not be imposed on private networks such as Verizon’s FiOS is unavailing, in no small part because these networks

were funded by regulated ratepayers under social contracts that granted the cable and telecommunications companies rate increases and relaxed regulation in return for their commitment to deploy high speed broadband service throughout the country. Moreover, these companies obtained valuable rights of way and other benefits for their networks under Title II and continue to do so to this day.<sup>2</sup> All of these broadband providers are licensees and franchisees of federal, state and local governmental authorities.

The time has come for the FCC to stop pussyfooting and take meaningful steps to protect and advance the openness of the Internet.

## **I. BACKGROUND.**

### **A. The Growth of the Internet.**

As Commissioner Jessica Rosenworcel stated, “[T]he future of the Internet is the future of everything. There is nothing in our commercial and civic lives that will be untouched by its influence or unmoved by its power.”<sup>3</sup> Today’s Internet is the outgrowth of what began in 1969 as a military program called “ARPANET,” which was designed to enable computers operated by the military, defense contractors, and universities to communicate with one another by redundant channels even if some portions of the network were damaged in a war. While the ARPANET no

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<sup>2</sup> From Verizon New Jersey’s FiOS cable TV franchise agreement, renewed in 2014, [http://www.verizon.com/idc/groups/public/documents/adacct/nj\\_swf\\_renewal\\_082013.pdf](http://www.verizon.com/idc/groups/public/documents/adacct/nj_swf_renewal_082013.pdf).

“Verizon NJ has been upgrading its telecommunications facilities in large portions of its telecommunications service territory so that cable television services may be provided over these facilities. This upgrade consists of deploying fiber optic facilities directly to the subscriber premises. **The construction of Verizon NJ’s fiber-to-the-premises FTTP network (the FTTP network) is being performed under the authority of Title II of the Communications Act of 1934** and under the appropriate state telecommunications authority granted to Verizon NJ by the Board and under chapters 3 and 17 of the Department of Public Utilities Act of 1948. The FTTP network uses fiber optic cable and optical electronics to directly link homes to the Verizon NJ networks. Renewal Application, P. 10 (Emphasis Added)

<sup>3</sup> Concurring Statement of Commissioner Jessica Rosenworcel, *Open Internet NPRM*.

longer exists, it provided an example for the development of a number of networks that eventually linked with each other forming what we know today as the Internet. By 1996 there were 100 million global Internet users.<sup>4</sup> Global Internet users reached 1 billion by 2005. *Id.* By 2013 there were 2.6 billion Internet users and that number is still growing at a rate of approximately 9 percent per year. *Id.* By 2013, in the United States there were 263 million Internet users, representing 83 percent of the U.S. population. *Id.* at 155.

The rise of the Internet has changed the way that people acquire and share information with each other, affecting everything from users' basic social relationships to the way that they work, learn, and take care of themselves. For example, the Internet is changing education by offering different options for people to acquire an education on their own terms and at low cost. Dulingo is a language application (app) that helps students learn new languages. *Id.* at 27. Teachers, students and parents can communicate using Remind 101. *Id.* Online courses are proliferating. The Kahn Academy You Tube channel has had 430 million views. *Id.* 65 million courses have been downloaded from iTunes U Open University. *Id.* The net result is real and measurable; 81 percent of high school freshman graduated in 2012 up from 74% five years ago. *Id.* It is worth noting that programs like Dulingo and Remind 101 are free to students, parents and teachers.

The Internet is having a significant impact on healthcare. Healthcare costs are rising in general, but Internet platforms are helping reduce healthcare costs. A majority of consumers (52%) want to access tools and websites for quality, satisfaction and patient review of doctors and hospitals. *Id.* at 31. Teledoc, an employer focused telemedicine platform, is saving \$798 per

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<sup>4</sup> Kleiner, Perkins, Caufield, Byers, Internet Trends – Code Conference, Mary Meeker, May 28, 2014, p. 154. (herein after KPCB 2014).



consultation, versus office or emergency room visits. *Id.* at 32. Mango Health<sup>5</sup> helps patients improve rates of medication adherence, e.g. 84% Statin average versus 52% market average. *Id.*

Even how we think of and use money is changing. The fact that there are 5 million Bitcoin wallets demonstrates the extraordinary interest in cryptocurrencies.

The Internet is a convergence of content, community and commerce. One example will demonstrate the point. Home renovation and design is bolstered by 3 million photos uploaded by designers and consumers, as well as 10,000 articles and guides. *Id.* at 57. The Home Design community consists of 400,000 service professionals as well as professional and homeowner discussion groups. Finally, there are 2.5 million products available online for purchase in the category of home improvement and design.

The Internet has changed the way we access and process information. Today when looking for a restaurant, a consumer is more likely to access Yelp, which provides maps and consumer reviews, than the Yellow Pages. Likewise, in booking a hotel or making travel plans the consumer is likely to turn to the Internet. Consumers seeking goods and services have resulted in a dramatic rise in Internet advertising. Companies like Google, Facebook and Twitter have experienced dramatic growth in advertising revenues.

The rise of social media and social networking has affected the way that people think about their friends, acquaintances, and even strangers. The new reality is that as people create social networks in technology spaces that are far bigger and more diverse than ever was possible. Social media allow people easily to plug into broad social networks – making them persistent and pervasive in ways that were unimaginable just a few years ago. Facebook has 1.5 billion

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<sup>5</sup> <http://www.mangohealth.com/>



users.<sup>6</sup> Google+ has 359 million users, followed by Twitter with 215 million users. *Id.* It should come as no surprise that young people are heavy consumers of social media, 89 percent of Internet users, ages 18 to 29, rely on social media. *Id.* Older Internet users also use social media in significant numbers. 60 percent of Internet users, ages 50 to 64, also use social media. *Id.*

Another critical factor in the growth of the Internet is the speed of Internet connectivity. Internet speed has picked up considerably with the rise of broadband connections. A dial-up Internet connection provides only 56Kbps. 56K modems quickly became outdated – they are not fast enough to effectively download music, videos, or streaming TV programming – and were replaced with Digital Subscriber Lines (DSL), then cable, and fiber optic lines. Today consumers can purchase from Verizon up to 34Mbps download speeds,<sup>7</sup> or up to 45Mbps from AT&T<sup>8</sup> or up to 50 Mbps from Comcast.<sup>9</sup> As Internet access speed has gone up the cost of bandwidth has declined 27% annually from 1999 through 2013. KPCB 2014 p. 72. As people gain access to these higher-speeds, they become different Internet users: They spend more time online, perform more activities, watch more video, and become content creators.

Mobile connectivity through cell phones, smartphones and tablets is changing the way people watch television. These new smaller screen platforms represent additional outlets for viewing. In the United States, on average a person spends 147 minutes per day watching television, compared with 103 minutes on a laptop, 151 minutes on a Smartphone and 43

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<sup>6</sup> <http://www.searchenginejournal.com/growth-social-media-2-0-infographic/77055/>

<sup>7</sup> [http://offer.verizon.com/?CMP=KNC-CON\\_2014-Q2\\_TS-TSP-364846\\_0001&KWID=492467331](http://offer.verizon.com/?CMP=KNC-CON_2014-Q2_TS-TSP-364846_0001&KWID=492467331)

<sup>8</sup> <http://www.buyatt.com/u-verse-internet/?cpid=44596&gclid=CMvV-smT8L4CFUaOgoduRwAhQ>

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[http://www.comcastspecial.com/?PID=google\\_branded:comcast:Comcast\\_Seed\\_Terms:Seed\\_Comcast&gclid=CJq4nL-U8L4CFShnOgod4IEAQA](http://www.comcastspecial.com/?PID=google_branded:comcast:Comcast_Seed_Terms:Seed_Comcast&gclid=CJq4nL-U8L4CFShnOgod4IEAQA)

minutes on a tablet.<sup>10</sup> Tablet purchases are growing at 52% annually.<sup>11</sup> Mobile devices have changed the way people think about how and when they can communicate and gather information. They have also affected the way people allocate their time and attention. Mobile usage as of May 2014 represented 19% of web usage in North America, up from 11% in May 2013.

Real-time entertainment, i.e. streaming video and audio, is the largest Internet traffic category.<sup>12</sup> Real-time entertainment is responsible for over 63% of fixed and 40% of the mobile downstream bytes during the peak period.<sup>13</sup> This is due in large part to the market leadership of Netflix, which accounts for 34.2% of downstream traffic during the peak period. *Id.* Increasingly, applications are replacing real-time, linear television channels. HBO Go has over 1000 hours of programming available on demand.<sup>14</sup> An increasing amount of this viewing is being done on mobile devices. On the ESPN app, 52% of the users access ESPN on smartphones/tablets. Likewise with the BBC app, 46% of requests for programs come from smartphones/tablets. *Id.*

Young consumers, ages 16 to 34, are moving away from traditional, linear television viewing to Internet based on-demand viewing. Young consumers spend 34% of their time viewing television online, compared with 12% for individuals 35-64. *Id.* at 122. Thus, young consumers spend 3 times as much time watching television online as older viewers. This is a

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<sup>10</sup> KPCB 2014 p.96.

<sup>11</sup> *Id.* at 4.

<sup>12</sup> Sandivine, Global Internet Phenomena Report 1H 2014, (herein after Sandivine 2014).

<sup>13</sup> *Id.* On an average day, the peak time for downstream Internet traffic on fixed networks is roughly from 9:00 until 11:30 p.m.

<sup>14</sup> KPCB 2014 p.106.

significant and growing trend in how individuals access entertainment programming. In traditional, linear television, audiences are told what to watch and when to watch it. Internet viewers choose the shows they want to watch and when to watch them. They can comment on the shows and add content in discussion forums.

The top 15% of real time entertainment users consume on average 212GB of data a month, more than seven times the usage of a typical subscriber, who consumes 29GB per month. These “cord cutters” consume an average of 100 hours of video per month and account for 54% of total traffic consumed each month.<sup>15</sup> This is a troubling trend for multi-channel video providers as it signals a rapid decline in traditional cable channel subscriptions.

#### **B. Consolidation of ISPs and Creation of the Internet Bottleneck.**

The multi-channel video industry is heavily consolidated, with thirteen of the largest video providers representing about 94% of the market.<sup>16</sup> The top multi-channel video providers account for over 94.6 million video subscribers - with the top cable companies having 49.6 million subscribers, satellite TV companies having 34.3 million subscribers and telephone companies having 10.7 million subscribers. *Id.* at 3. Most of these same cable and telephone companies also provide broadband Internet access. Broadband providers are likewise heavily consolidated. The seventeen largest cable and telephone providers in the U.S. represent about 93% of the market. *Id.* The top broadband providers account for 84.3 million subscribers – with cable companies having 49.3 million broadband subscribers, and telephone companies having 35 million subscribers. *Id.*

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<sup>15</sup> Sandvine 2014 p.7. Cord cutters are users in the top 15% of streaming audio and video. Sandvine could not resolve if they have actually cut the cord but concludes that “they are likely using streaming as a primary form of entertainment.”

<sup>16</sup> Leichtman Research Group, Inc. Research Notes 1Q 2014 at p. 2,6. (herein after “Leichtman 2014”)



A clear trend is emerging; the broadband providers are growing rapidly, adding 2.6 million subscribers in 2013, while the multi-channel video providers are losing customers, with a net loss of 105,000 video subscribers in 2013. *Id.* at 2-3. This is a relatively small number, but a clear trend is established, people are disconnecting from multi-video providers and relying exclusively on Internet delivered programming for their entertainment needs. What is important is that largest multi-video providers, Comcast, Time Warner. Charter, Cablevision, AT&T and Verizon are also the largest broadband Internet providers. Thus in almost all cases, broadband providers directly compete with Internet video providers, such as Netflix. These broadband Internet providers have a strong economic incentive to discriminate against Internet video providers. Simply stated, Netflix is in the unenviable position of competing with companies like Comcast and Verizon for video entertainment customers, while being dependent on them to deliver Netflix's video content via the Internet that they control.

Netflix has already agreed to pay Comcast and Verizon to avoid service degradation.<sup>17</sup> In the fall of 2013, Comcast customers started to notice that their Netflix streaming experience was getting worse. The average video quality got lower and it became more common for videos to suddenly stop for "buffering." These problems were cropping up because the bandwidth available to each Netflix subscriber on Comcast's network was falling rapidly. According to Netflix, this was happening because Comcast allowed its links to Internet transit providers like Level 3, XO, Cogent and Tata to clog up. In other words, the Internet backbone connecting Comcast with the rest of the Internet was getting congested, and Comcast wasn't investing in improving the connection. Netflix, and the companies Netflix had paid to deliver its content,

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<sup>17</sup> Sottek, T.C. *Netflix blasts Comcast and Verizon on net neutrality: 'some big ISPs are extracting a toll'* <http://www.theverge.com/2014/3/20/5530898/netflix-blasts-comcast-and-verizon-on-net-neutrality-some-big-isps>



thought Comcast should accept traffic from them for free. Comcast thought it should be paid to accept the traffic, in addition to what it was already being paid by its customers to accept that traffic. The result was that Netflix's usage increased, but the network didn't get upgraded to accommodate the traffic growth. As a result, each user got less and less bandwidth. When Netflix agreed to pay Comcast and Verizon for a direct connection between their networks, customer connection speeds increased.

In a competitive broadband market, Comcast's slow down of service would not have worked. Customers would have transitioned to another, more accommodating ISP. But most Comcast customers have no alternative. More than three-quarters of U.S. households have no choice other than their local broadband provider for high-speed, high-capacity Internet.<sup>18</sup> This was not always the case. The number of ISPs increased from about 1,400 in 1996 to 4,000 ISPs in 1997 in the United States and Canada. Many of these ISPs were small operations that served consumers and small businesses in local markets. Consolidation among ISPs and telephone companies began in earnest in 1997. As stated, today the seventeen largest ISPs in the U.S. control 93% of the market and this number is shrinking. Currently, Comcast with 20 million broadband customers is proposing to merge with Time Warner with 11 million broadband subscribers. This merger, if permitted, will further consolidate bottleneck control over broadband in the U.S, allowing the merged entity to exert greater leverage over content providers and other customers. As stated in an *Economist* article, "Unlike Britain and France, America unwisely has no 'common carriage', allowing for internet service providers to rent cable companies pipes and compete on price and speed.... Comcast will have extraordinary power over what content is delivered to consumers, and at what speed." *Id.*

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<sup>18</sup> *Economist* March 15, 2014, Cable Consolidation in America Turn it Off.

Allowing common carriage will open the ISP market to vigorous competition. The other option, edge providers negotiating agreements with ISPs, will degrade the flexibility and ingenuity of the Internet. There are thousands of networks around the world. Anyone can set up a web server, anywhere in the world, and instantly reach everyone else, regardless of location or identity of network. If ISPs are permitted to divide their networks into fast lanes and slow lanes, things will get more complicated. An edge provider, to get satisfactory service for its website may have to negotiate fast-lane agreements with ISPs, and may be disadvantaged vis a vis ISP media services. Smaller companies that do not have the money to do that would be hard pressed to compete in the market.

There is the very real danger that ISPs will abuse their market power. Most U.S. ISPs also sell paid television services that compete directly with online streaming services such as Netflix and Amazon Instant Video. ISPs will be tempted to relegate online video services to the slow lane to prevent them from becoming a competitive threat to their lucrative paid television businesses. Or they might charge competing services a big markup for access to the fast lane, ensuring that they won't be able to undercut them on price. This has already happened to Netflix. Recently, Level 3 Communications accused five ISPs of using their market power to interfere with how traffic flows from Level 3 onto the ISPs' last-mile network, resulting in degraded quality of services going over Level 3's network.<sup>19</sup>

Finally, a multi-tiered business model will give ISPs perverse incentives to make its slow lane slower — or at least not upgrade— to encourage content companies to pay for fast-lane status. When Steve Chen, Chad Hurley, and Jawed Karim invented YouTube in 2005, they didn't

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<sup>19</sup> Higginbotham, Stacey, *Level 3 Accuses Five Unnamed US ISPs of Abusing Their Market Power In Peering*. May 5, 2014. <http://gigaom.com/2014/05/05/level-3-accuses-five-unnamed-us-isps-of-abusing-their-market-power-in-peering/>

have to negotiate special fast-lane contracts with ISPs around the world. They also didn't have to worry that incumbent broadband providers would view them as a threat to their cable services and relegate them to slow lanes — or demand fast-lane fees they couldn't afford to pay. YouTube could compete with much larger companies on a level playing field. The Internet is dynamic and changing in ways that cannot be foreseen or imagined. It is the FCC's responsibility to insure that the Internet stays open to new companies with innovative, radical business models, rather than be partitioned into have and have not companies who are unable to compete for new customers and new ways of sharing information.

## **II. The FCC's Proposed Rule Changes.**

The Internet's openness promotes innovation, investment, competition, free expression and other interests. Restricting edge providers' ability to reach other customers e.g. non-content provider end users, and limiting their ability to choose which edge providers to patronize, would reduce the rate of innovation and, in turn, the likely rate of improvements to network infrastructure. As discussed in the previous section, ISPs' control of access to the Internet increases barriers to entry, limits service options and increases costs for all customers. The FCC does acknowledge that "broadband providers may have economic incentives to block or disadvantage a particular edge provider or class of edge providers... In particular, excessive fees could reduce edge provider entry, suppress innovation, and depress consumer demand. "*Open Internet NPRM* at ¶6. The FCC also acknowledges that if ISPs can charge edge providers for access to their customers, they would have an incentive "to degrade or decline to increase the quality of service they provide to non-prioritized traffic." *Id.* Both edge providers seeking access to their customers and customers seeking access to edge providers are thus subject to the gatekeeper effect of broadband providers.



In vacating, in part, the FCC's *2010 Open Internet Order*<sup>20</sup> the U.S. Court of Appeals for the D.C. Circuit found "broadband providers represent a threat to Internet openness and could act in ways that would ultimately inhibit the speed and extent of future broadband deployment." *Verizon* at 645. The court struck down the FCC's "anti-blocking" and "anti-discrimination" rules, explaining that the Commission had chosen an impermissible mechanism by which to implement its legitimate goals. Specifically, the Court held that the Commission had imposed *per se* common carriage requirements on providers of Internet access services. Such treatment was impermissible because the Commission had classified fixed broadband Internet access service as an information service, not a telecommunications service, and had classified mobile broadband Internet access service as a private mobile service rather than a commercial mobile service. *Id.* at 656-59. The FCC's *Open Internet NPRM* reintroduces modified anti-blocking, anti-discrimination and transparency rules, while still skirting the reality that ISPs are indeed common carriers subject to Title II of the Communications Act.

**A. Anti-Blocking Rule.** As set forth in the *2010 Open Internet Order*, the rule barred fixed providers from blocking "lawful content, applications, services, or non-harmful devices subject to reasonable network management."<sup>21</sup> It prohibited mobile providers from blocking "consumers from accessing lawful websites," as well as "applications that compete with the provider's voice or video telephony services," subject to "reasonable network management." *Id.*

The D.C. Circuit vacated the anti-blocking rule because it found that the Commission had failed to provide a legal rationale under which the prohibition would not impermissibly subject

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<sup>20</sup> *Preserving the Open Internet*, GN Docket No. 09-191, WC Docket No. 07-52, Report and Order, 25 FCC Rcd 17905, (2010) (*2010 Open Internet Order*), *aff'd in part, vacated and remanded in part sub nom. Verizon v. FCC*, 740 F.3d 623 (D.C. Cir. 2014).

<sup>21</sup> 47 C.F.R. § 8.5.



broadband providers to common carriage regulation.<sup>22</sup> In the *Open Internet NPRM* the FCC proposes to adopt the text of the no-blocking rule that the Commission adopted in 2010, with a clarification that it does not preclude broadband providers from negotiating individualized, differentiated arrangements with similarly situated edge providers (subject to the commercial reasonableness rule). The FCC contends that so long as broadband providers do not degrade lawful content or service to below a minimum level of access, they would not run afoul of the proposed rule. *Open Internet NPRM* at ¶89. The Commission reasons that so long as the no-blocking rule allows for individualized bargaining above the minimum level of service necessary, then the rule might not create *per se* common carriage obligations. *Id.* at ¶93. ISPs could deliver all edge provider traffic in a manner that exceeds the minimum speed and they would then be free to negotiate separate agreements with each individual edge provider and to charge similarly situated providers completely different prices for the same service. *Id.* ¶99

**B. No Unreasonable Discrimination Rule.** As set forth in the *2010 Open Internet Order*, the antidiscrimination rule prohibited fixed broadband providers from unreasonably discriminating against network traffic subject to reasonable network management. *Open Internet NPRM* at ¶113. The D.C. Circuit vacated the antidiscrimination rule because it found that the rule improperly relegated fixed broadband providers to common carrier status.<sup>23</sup> In the *Open Internet NPRM* the FCC tentatively concludes that the Commission should adopt a rule requiring broadband providers to use "commercially reasonable" practices in the provision of broadband Internet access service. The FCC claims that this approach is both more focused and more flexible than the vacated 2010 non-discrimination rule. It would prohibit as commercially

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<sup>22</sup> *Verizon*, 740 F.3d at 658.

<sup>23</sup> *Verizon*, 740 F.3d at 655-57.

unreasonable those broadband providers' practices that, based on the totality of the circumstances, threaten to harm Internet openness and all that it protects. At the same time, it could permit broadband providers to serve customers and carry traffic on an individually negotiated basis, "without having to hold themselves out to serve all comers indiscriminately on the same or standardized terms." *Open Internet NPRM* at ¶116.

**C. Transparency Rule.** The *2010 Open Internet Order* imposed a transparency rule, requiring both fixed and mobile providers to "publically disclose accurate information regarding the network management practices, performance, and commercial terms" of their broadband Internet access service. *Open Internet NPRM* at ¶21. The D.C. Circuit upheld the transparency rule. In the *Open Internet NPRM* proceeding, the FCC inquires as to ways the transparency rule can be improved. The FCC seeks comment on how it should enhance the existing transparency rule to ensure the effectiveness of, and compliance with, the anti-blocking and anti-discrimination rules. For example, to ensure the effectiveness of the no-blocking rule, should the Commission mandate that broadband providers disclose--in a more rigorous and consistent way--the expected performance end users can expect from their broadband service? The FCC tentatively concludes that broadband providers must disclose in a timely manner when they make changes to their network practices as well as any instances of blocking, throttling, and pay-for-priority arrangements, or the parameters of default or "best effort" service as distinct from any priority service. *Open Internet NPRM* at ¶78. The Commission also seeks comment on the enforcement of the transparency rule and tentatively concludes that the consequences of a failure to comply warrant sanctions including monetary penalties. *Open Internet NPRM* ¶87.

**D. Common Carrier Regulation.** The FCC seeks comment on whether the Commission should rely on its authority under Title II of the Communications Act, including

both (1) whether it should revisit the Commission's classification of broadband Internet access service as an information service and (2) whether it should separately identify and classify as a telecommunications service a service that "broadband providers . . . furnish to edge providers."

*Open Internet NPRM* ¶148

### **III. The Case for Title II Regulation of Bottleneck Broadband Providers is Compelling**

T-Mobile recently decided that it would offer certain streaming music services free of data charges.<sup>24</sup> Instead of treating all music services alike, T-Mobile has decided that the most popular streaming music services get better treatment. Customers with limited T-Mobile data plans will not be charged for data usage when listening to Spotify, Pandora, Rhapsody, iTunes Radio, iHeartRadio, Slacker Radio and Samsung Milk Music. Other, competing, music services have not been included in T-Mobile's free music streaming plan and listening to them will count against the customer's data plan. New or obscure streaming music services will thus remain at a disadvantage for as long as T-Mobile doesn't recognize them. This, in turn, makes it harder for these services to take off, enforcing a vicious cycle. The problem is that this type of discrimination will not conflict with the FCC's proposed rules, because T-Mobile currently is not charging the music services for this preference and is open to including other music services, and it is not favoring any one provider or setting up a "fast lane." However, an exemption from wireless data usage charges arguably compromises the principle of an open Internet just as much as charging content providers for higher speed transmission. Clearly, small companies, not included in T-Mobile's free data plan are placed at a significant competitive disadvantage. Further, even if T-Mobile should decide to start charging for such a service, such an action would not violate the FCC proposed rules.

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<sup>24</sup> Newman, Jared *Time* June 19, 2014 <http://time.com/2901142/t-mobile-unlimited-music-net-neutrality/>



The foregoing example is illustrative of the unholy incursion of transmission providers into the content arena. Whether or not T-Mobile has market power or there is some other public interest rationale for regulatory intervention is not the subject of these comments. On the other hand, the indisputable presence of bottleneck control over broadband Internet access by the large ISPs clearly warrants the reinstatement of Title II regulation by the FCC.

**A. The Cable and Telecommunications Giants Have Bottleneck Control Over Broadband Internet Access.** A new article in the Harvard Law Review by Susan Crawford does a comprehensive analysis of the market for broadband Internet access.<sup>25</sup> This analysis demonstrates the dominance of the bottleneck ISPs and their capacity for abuse of this market position. Relevant portions of the analysis are excerpted in the following paragraphs without footnotes.

When the first high-speed (greater than dial-up speed) Internet access was supplied by the phone companies across their copper lines, the companies were required to sell this basic service to competitors who wanted to resell it, to allow end-user customers to connect to any Internet service provider (ISP) they wanted (which meant sharing their lines with unaffiliated ISPs), to charge reasonable rates, to allow third-party devices such as computer modems to connect to their networks, and to allow any other network to connect on fair terms. The commercial Internet took off because computers able to “speak” the Internet Protocol were connected to each other by regulated phone lines.

Since 2005 ... the FCC has taken the position that competition among various forms of high-speed Internet access (cable access, DSL access across copper wires, wireless access, and fiber) will be better than regulation at protecting users and businesses from any possible abuses by the companies selling high-speed Internet access. The FCC has defined “broadband” (or high-speed) access as anything over 4 megabits per second (Mbps) download and 1Mbps upload, which allows it to view all of these modalities as competing with one another.

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<sup>25</sup> [http://cdn.harvardlawreview.org/wp-content/uploads/2014/06/vol127\\_crawford.pdf](http://cdn.harvardlawreview.org/wp-content/uploads/2014/06/vol127_crawford.pdf)



It turns out that this belief in competition is not well founded, as the following section describes: for between 77 and 82% of Americans, their local cable monopoly is their only choice for high-capacity, high-speed connections, and dominant members of the cable industry never enter each others' territories; the phone companies have retreated almost entirely to wireless where their profits are still secure, and have mostly ceded the wired marketplace to the cable companies (with the narrow exception of Verizon's FiOS service, available in just 14 % of the country); and Verizon and the cable companies are collaborating. Where consolidation is possible, competition is impossible.

Cable has won: the marketplace for high-capacity (200 gigabytes (GB) of data per month), high-download-speed (100Mbps) wired connections is dominated by a series of local cable monopolies that can charge whatever they want. This dominance is continuing to grow at an ever-increasing rate of speed. Already, for high-capacity download speeds that are at least 6Mbps and, more likely, above 25 Mbps, the vast majority of Americans have just one choice — their local cable incumbent. Deep confusion has been injected into policy discussions in this area by the FCC's assertion that any connection of at least 4 Mbps for downloads and 1Mbps for uploads is fast enough to be counted as "broadband" or "high-speed" access. This allows both the existing companies and the FCC to claim that everything is fine with "high-speed" access because above that modest threshold, there is plenty of competition (wireless, satellite, DSL over copper lines, cable modem, a little fiber) and if Americans are not subscribing at home it is because they are not interested. The reality is far different: mobile wireless and satellite services do not substitute for fixed wired services, Americans are fleeing DSL for cable, and the sole national provider of fiber-to-the-home access — which is a true competitor for cable — has elected to serve just 14% of the nation.

First, wireless. Mobile wireless and satellite Internet access are both saddled with low data caps that make sustained uses at high capacity extraordinarily expensive; these uses, for that reason and because of the laws of physics, do not compete on the same field as wired access to the Internet. To see why this is so, consider that the median wire access customer today uses about 30GB of data per month. Mean users of wired access are now using more than 50 GB of data per month. Wireless plans from Verizon Wireless and AT&T, who lead this market, typically start at \$40 per month for 2 GB and then charge \$15 per gigabyte of data access (overage charges) thereafter. This means that substitution of a wireless

connection for a wired connection for the median customer would cost almost \$500 per month. For the mean customer it would cost more than \$800. From a capacity perspective, as well as from a speed perspective, wireless is a complementary rather than competitive product. It is telling that at least 83% of people with smartphones also have a high-speed Internet access connection at home — again, these technologies complement one another.

Wireless, like wired, is a highly concentrated market, although arguably less so at this point than the wired side. On the wireless side, AT&T and Verizon are the dominant players; Sprint and T-Mobile lag far behind. AT&T and Verizon together account for about two-thirds of mobile wireless subscriptions, and Verizon in the fourth quarter of 2012 added a record number of subscribers (2.1 million new postpaid accounts). As of the fourth quarter of 2012, Verizon had almost 116 million subscribers (37.2%), and AT&T had 107 million (27.9%); Sprint had 55million (about 12% of the market) and T-Mobile had 33 million (less than 10%). AT&T and Verizon Wireless often act in lockstep, and their pricing is not constrained by that of Sprint or T-Mobile.

Further demonstrating the complementarity of these two separate markets, the two sides, wired and wireless, cooperate with one another. Far from competing with Verizon Wireless, Comcast and Time Warner Cable offer bundles that include Verizon Wireless services. Verizon has made common cause with Time Warner Cable and Comcast to jointly market its wireless product with the wires sold by the cable guys, signaling that it will not be competing fiercely on the wired side of its business.

Next, consider the wired side of high-speed Internet access services. Just five high-speed Internet access services providers — Comcast (20 million subscribers), AT&T (16 million), Time Warner Cable (12 million), Verizon (9 million), and Century Link (6 million) — account for 76% of U.S. wired high-speed Internet access subscriptions. Each of these access providers also has an affiliated cable or telco video business, giving them a built-in conflict of interest when it comes to online services that might compete with their video revenue streams.

It matters what kind of wire these providers are selling. DSL is the high-speed Internet access product sold by telephone companies using their copper wires. Traditional DSL, which is present in 42% of the country, is not truly high speed these days. If we take Netflix, the largest source of online traffic in the United States, as a proxy for future applications that will require high-capacity



connections into homes and businesses, it suggests that consumers today require a 5Mbps download service to watch HD-quality (high-definition) picture.

According to the FCC's most recent numbers, the vast majority of current DSL subscribers' connections cannot handle this usage: although DSL does fine in serving very slow uses (say, checking email or Facebook), DSL's share of fixed connection subscriptions falls to just 26.2% for download speeds of at least 3 Mbps (the minimum recommended speed to stream just a single DVD-quality Netflix movie), and to just 7% of fixed connection subscriptions at the 10 Mbps threshold.

If you wanted to plug more than one device into your home network and simultaneously allow two people in your household to watch (or participate in) two different sessions of HD video, DSL would be useless: for connections of at least 10 Mbps, DSL's share as of mid-2012 was just 2.9% of fixed connection subscriptions — less than one out of every thirty connections. The FCC's latest figures state that about 33% of fixed high-speed Internet access subscriptions are DSL. But Americans with a choice are leaving DSL: while the cable industry's share of net new high-speed Internet access subscriptions steadily climbed between 2008 and 2012, DSL's share has been declining over the same period and is now firmly (and deeply) negative. By the second quarter of 2008, telco DSL services had begun losing subscribers, a trend that has continued since then. As a result, telco shares of new high-speed wired internet access subscriptions have plummeted from a healthy 54% in 2005 and 2006 to 20% for the first nine months of 2013. The DSL customer base of the two big phone companies, AT&T and Verizon, shrank by nearly 56% for AT&T between 2009 and 2013 and 40% for Verizon. During that same period, the nation's top two cable distributors, Comcast and Time Warner Cable, increased their cable modem subscriber base by 30% and 23%, respectively. According to Leichtman Research Group, in 2012, 88% of new high-speed Internet access subscriptions went to the largest cable providers. For 2012 as a whole, less than one out of every seven new high-speed Internet access subscriptions went to anyone other than the cable companies. Traditional DSL is not substitutable for cable at this point, given the availability of much higher speeds over cable.

DSL and cable modem services were roughly competitive in 2002 about the same capacity and speed for about the same price. Since then, the upgrade path for cable, allowing far higher-speed downloads and uploads than DSL, has been much less expensive



than that for the phone companies because the latter would have to dig up their copper and replace it with fiber. When cable operators, starting with Comcast, began rolling out DOCSIS 3.0 technology in 2008, DSL's ability to compete on speed went from limited to virtually non-existent.

Now consider fiber. The communications capacity of a fiber-optic network running all the way into a home or business is, as far as we know, unlimited. Fiber connections are made of thin glass tubes through which lasers are shot; unlike DSL communications, which degrade very sharply over distance, the lights of fiber can go for miles, and photonics are continuing to improve. Fiber to the home (FTTH) (or business) is inarguably the best and most future-proof technology on the market; fiber installations will last thirty to fifty years. FTTH is also not subject to regulation or oversight in the United States, including any nondiscrimination or interconnection mandates. FTTH is substitutable for cable; indeed, it is a better technology because it allows for equal upload speeds while cable's shared neighborhood architecture severely crimps uploads.

But Verizon's FiOS is the only nationwide FTTH product, and this service is not available as a substitute for most cable subscribers. Verizon has plans to reach 18 million U.S. households with its FiOS FTTH service, and announced in March 2010 that it would go no further. Although cable passes 93% of American homes, Time Warner Cable faces competition from FiOS in just 11% of its territory;<sup>92</sup> Comcast, in 17% of its territory.

AT&T, even more conservatively, has upgraded some of its DSL connections with additional fiber — fiber to the node, or neighborhood, plus copper wire going into houses. This fiber-to-the-node (FTTN) "U-verse" provides about 25Mbps download speeds; with some expensive technical wizardry, some of these connections could be upgraded to as much as 45Mbps download speeds (and very cramped uploads) that would be devoted to shared television and data connections. But FTTN's reliance on copper into homes limits its ability to communicate information swiftly. By contrast, cable will be capable of providing 1Gbps speeds and, soon, 3Gbps. Faced with a choice between FTTN and cable, experts say Americans will choose cable.

In the largest sense, AT&T and Verizon have effectively ceded the wired marketplace to the cable operators (with limited exceptions in targeted areas) and have retreated to wireless communications, where their profits are more secure. Although most Americans

have some kind of wired high-speed (more than 4 Mbps download speed) Internet access at home, nearly 100 million do not. (And 19 million Americans cannot buy fixed Internet access at any price.) Recent data demonstrates that the digital divide is persistent, with close correlations between socioeconomic status and the presence or absence of fixed home Internet access.

According to a recent Pew Research Center (Pew) report, almost 90% of college graduates have “high-speed” Internet access at home, as do households earning more than \$75,000 per year. Compare that to only 37% of those who have not completed high school — as well as 54% of households with income less than \$30,000 — that have such access. There continue to be racial differences as well, with blacks (64%) and Latinos (53%) less likely to have “high-speed” Internet access than whites (74%). The urban (70%) versus rural (62%) divide also persists for high-speed Internet access. But socioeconomic class trumps race when it comes to high-speed Internet access.

Pew points out that many blacks and Latinos have smartphones — bringing their “high-speed” adoption numbers almost equal to that of whites if smartphone access is included in “high-speed.” It should not be. Pew’s reports are reminders that people who depend on smartphones only are not able to do as many things online as those who have a truly high-speed, high-capacity wire at home. Again, because of cost and capacity limitations, wired and wireless methods of Internet access are not substitutes.

At the same time, consumer data consumption and delivery is a major revenue generator — not a cost center — for both wired and wireless high-speed Internet access providers. Some estimates put the incremental costs of delivering data from the edge of the access provider’s network to the consumer at about 1.4 cents per GB, down to about 1 cent per GB for the highest volume user. Bernstein Research has called high-speed Internet access service from the cable companies an “almost comically profitable service, with direct gross margins of about 97%.” In effect, the cable companies are close to having — if they do not have already — a terminating access monopoly in their clustered areas. Likewise, AT&T and Verizon have great power in the wireless marketplace.

In sum, deep factual confusion confounds the policy discussion in this area. Because the FCC labels anything other than dialup — any connection of at least 4 Mbps for downloads and 1 Mbps for uploads — as fast enough to be counted as “high speed,” both the existing companies and the FCC can argue that there exists no



dearth of competition in the market for “high-speed” access because above the FCC’s low threshold, there exist ample alternatives — including wireless, satellite, DSL, cable modem, and fiber — and if Americans are not subscribing, it is because they have no interest in doing so.

Available data reveals a very different picture. On the wired side of the picture, Americans are fleeing DSL for cable modem service. And the cable industry, which is the only choice for high-capacity uses for more than 80% of Americans, is under no pressure from either competition or oversight to charge reasonable rates or upgrade its last mile lines to the fiber-optic services that would allow for symmetrical (equal upload and download) uses. Americans have vanishingly few choices when it comes to reasonably priced, high-capacity, high-speed Internet access. And we are leaving more Americans behind all the time, because communications inequalities will amplify and further entrench existing socioeconomic inequalities.

In this country we have a stagnant, uncompetitive market for wired high-capacity, high-speed access and a slightly less-stagnant separate market for (very expensive) mobile Internet access.

The foregoing analysis shows that broadband competition has actually diminished since the FCC deregulated Internet access services in the early 2000s and that wireless broadband is an inadequate substitute for cable and wireline connections. The FCC’s low speed definition of broadband blurs the distinction and leads to an incorrect market analysis.

#### **B. Title II Regulation of Broadband Internet Access is Necessary for an Open Internet.**

The Harvard Law Review, *supra*, at 2365-78, makes a strong case for common carrier regulation of the transport services provided by the major cable and telecommunications ISPs. It argues persuasively that the FCC has the clear legal authority to regulate broadband Internet transport under Title II of the Communications Act, as interpreted by decades of court decisions. This is true, even in the absence of market power, although the evidence of market power in the provision of transport services is compelling:



Compared to the ideal of common carriage, in which information is transported on a nondiscriminatory basis from one place to another, Malone's strategy would unquestionably create dramatic change. Successful execution of this strategy will not be difficult: absent oversight, these actors (Verizon and AT&T for wireless, Comcast and Time Warner Cable for wired access) will have the power to act as gate-keepers on both sides of the two-sided market these companies envision, charging both programmers (think any Internet application that requires high capacity and high bandwidth) and end-user subscribers without restraint, and shaping the information ecosystem for Americans. *Id.*, at 2378

The leverage that broadband providers can exert to promote their own content and ancillary services will be unbounded absent Title II regulation. Anything short of an outright declaration that broadband Internet transport is a common carrier service will very likely suffer the same fate as the FCC's previous ill-conceived and ill-fated attempts to impose rules of conduct under other sources of statutory authority.

The FCC's latest proposal to allow ISP's to enter into commercially reasonable arrangements with "edge provider" customers is completely unworkable. Even if such a rule were able to withstand legal challenge, it would take the FCC years to develop standards by which it could evaluate the "commercial reasonableness" of "agreements" that were the product of unequal bargaining power. And if the FCC were to adopt rigorous standards for these arrangements or find that any such agreements were commercially unreasonable, the offending broadband provider would undoubtedly petition the courts, arguing that the FCC had unlawfully imposed *per se* common carrier regulation in violation of the recent *Verizon* decision.

The FCC is unable, unwilling or politically constrained from taking regulatory action where it is clearly needed. A case in point is the FCC's 2005 proposal to reevaluate the relaxed regulation it had accorded to price cap telecommunications carriers' provision of Special Access or private line services. The agency commenced this proceeding in response to pleas from other

wireless and wireline carriers who required Special Access lines to connect their networks, for example to link cell sites to mobile switching centers. These carriers have no realistic alternatives to the high-priced, large telecommunications carriers. After years of inactivity and more years of large-scale data collection, the FCC still has reached no firm conclusions or taken any definitive action in the proceeding. Nine years later, the telecommunications companies continue to enjoy the egregious profits they are able to extract from dependent customers for these services.

The FCC's latest proposal, ostensibly to deter the dominant broadband providers from their strategy of commandeering the Information Age, is yet another example of the awkward contortionism that has been roundly unsuccessful in recent years. By shying away from Title II common carrier regulation of transport services, as it has in the past and appears poised to do again, the FCC reinforces the growing assessment of agency life as being in a state of "regulatory capture."

The reinstatement of common carrier regulation of broadband services would be manageable for both the FCC and the cable and telecommunications companies. The FCC would require facilities based ISPs to offer unbundled transmission services, wherever they are offering bundled ISP services, at reasonable rates, terms and conditions. Internet connections would be offered to all customers indifferently, whether they are "edge providers" or other end users. Price differences would be based solely on the common carrier's cost of providing the number and size of the connections, i.e., the transmission capacity, required by the customer. The FCC could evaluate the reasonableness of broadband transmission prices by disaggregating bundled offerings already in the market; developing a cost model; or requiring cost studies. The facilities based ISPs would be required to charge their own customers the same prices as they

charge other customers for broadband connections, including competing ISPs. Features and services in addition to transport, such as movies, clouds and business management services, could be offered at additional cost. Market price comparisons for both broadband and other services would enable the FCC to safeguard against unlawful cross-subsidization between the dominant broadband and competitive services.

The regulation of transport as a common carrier service and its separation from content and information services would enable competition to flourish in an open environment as it did in the early days of the Internet when thousands of ISPs had access to their customers over the lines of the telecommunications carriers. It would make it more difficult for the dominant broadband providers to favor their own media services or exact premiums from content providers for preferences in transport.

Opening up the cable and telecommunications broadband networks would not be an unlawful taking without just compensation. These companies operate only by the grace of government as public licensees and franchisees, enjoying access to public rights of way and many other benefits. Where it is in their interest the telecommunications companies invoke Title II and their status as common carriers; where it does not, Title II is anathema to them.

The cable and telecommunications companies financed their broadband networks pursuant to social contracts with state and federal governments. In return for rate increases on regulated services and deregulatory concessions, these companies committed to deploy high speed broadband throughout their service areas. In many cases they have not made good on these commitments and have not been held accountable by regulators. The cable and telecommunications giants have convinced legislators in 20 states to outlaw municipal networks, claiming that their “private” networks in which they invested billions of dollars should not have




to compete with government owned networks. The FCC must not credit this bogus argument. Regulated ratepayers funded the broadband networks of today; when the FCC allowed their owners to withdraw their networks from common carrier service, ratepayers received no compensation or concession for their trouble.

## CONCLUSION

After ten years it is apparent that the FCC's decision to relieve broadband providers of the obligation to offer unbundled transmission as a common carrier service was not in the public interest. Competing technologies and providers have not materialized; thousands of non-facilities based ISPs have gone out of business because they could no longer obtain access to their customers; and the large broadband providers are exploiting their bottleneck control over Internet access to favor their own media services and overcharge their captive customers for the delivery of content. The FCC's previous attempts to impose some order on the broadband providers have been notably unsuccessful and the latest form of indirect regulation favored in the NPRM will likewise fail or be an inadequate check on the predatory objectives of the bottleneck owners. The reinstatement of Title II common carrier regulation of transport is the only viable solution to preserving and advancing an open Internet. It is workable, manageable and fair to all parties and it is surely in the public interest for the FCC to take this logical step. The FCC is well within its statutory authority to do so.

Respectfully Submitted,

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